OIPE

This Raw Listing contains the General Information Section and up to the first 5 pages.

#4

```
 1                                    SEQUENCE LISTING
 2
 3   (1)     General Information:
 4   (i) APPLICANT: Robert G. Ulrich,
 5   Mark A. Olson
 6   Sina Bavari
 7
 8   (ii) TITLE OF INVENTION: Bacterial Superantigen
 9   Vaccines
10
11   (iii) NUMBER OF SEQUENCES:16
12
13   (iv) CORRESPONDENCE ADDRESS:
14   (A) ADDRESSEE:  John Moran
15   (B) STREET: US Army MRMC -504 Scott Street MCMR-JA (John Moran-Patent Atty)
16   (C) CITY: FORT DETRICK
17   (D) STATE: MARYLAND
18   (E) COUNTRY: USA
19   (F) ZIP: 21702-5012
20
21   (v) COMPUTER READABLE FORM:
22   (A) MEDIUM TYPE: Floppy disk
23   (B) COMPUTER: Apple Macintosh
24   (C) OPERATING SYSTEM: Macintosh 7.5
25   (D) SOFTWARE: Microsoft Word 6.0
26
27   (vi) CURRENT APPLICATION DATA:
28   (A) APPLICATION NUMBER: 08/882,431
29   (B) FILING DATE: June 25, 1997
30   (C) CLASSIFICATION:
31
32   (vii) PRIOR APPLICATION DATA:
33   (A) APPLICATION NUMBER:
34   (B) FILING DATE:
35
36   (viii) ATTORNEY/AGENT INFORMATION:
37   (A) NAME: Moran, John
38   (B) REGISTRATION NUMBER: 26,313
39   (C) REFERENCE/DOCKET NUMBER:
40
41   (ix) TELECOMMUNICATION INFORMATION
42   (A) TELEPHONE: (301) 619-2065
43   (B) TELEFAX:  (301) 619-7714
44
45   (2) INFORMATION FOR SEQ ID NO:1:
46   (i) SEQUENCE CHARACTERISTICS:
```

ENTERED

RECEIVED

FEB 2 6 1998

```
47   (A) LENGTH: 830
48   (B) TYPE: Nucleic Acid
49   (C) STRANDEDNESS: Unknown
50   (D) TOPOLOGY: Unknown
51   (ii) MOLECULE TYPE: DNA
52   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
53
54   atgaaaaaaa cagcatttac attactttta ttcattgccc     40
55
56   taacgttgac aacaagtcca cttgtaaatg gtagcgagaa     80
57
58   aagcgaagaa ataaatgaaa aagatttgcg aaaaaagtct    120
59
60   gaattgcagg gaacagcttt aggcaatctt aaacaaatct    160
61
62   attattacaa tgaaaaagct aaaactgaaa ataaagagag    200
63
64   tcacgatcaa tttcgacagc atactatatt gtttaaaggc    240
65
66   ttttttacag atcattcgtg gtataacgat ttattagtac    280
67
68   gttttgattc aaaggatatt gttgataaat ataaagggaa    320
69
70   aaaagtagac ttgtatggtg cttatgctgg ttatcaatgt    360
71
72   gcgggtggta caccaaacaa aacagcttgt atgtatggtg    400
73
74   gtgtaacgtt acatgataat aatcgattga ccgaagagaa    440
75
76   aaaagtgccg atcaatttat ggctagacgg taaacaaaat    480
77
78   acagtacctt tggaaacggt taaaacgaat aagaaaaatg    520
79
80   taactgttca ggagttggat cttcaagcaa gacgttattt    560
81
82   acaggaaaaa tataatttat ataactctga tgtttttgat    600
83
84   gggaaggttc agaggggatt aatcgtgttt catacttcta    640
85
86   cagaaccttc ggttaattac gatttatttg gtgctcaagg    680
87
88   acagtattca aatacactat taagaatata tagagataat    720
89
90   aaaacgatta actctgaaaa catgcatatt gatatatatt    760
91
92   tatatacaag ttaaACATGG TAGTTTTGAC CAACGTAATG    800
93
94   TTCAGATTAT TATGAACCGA GAATAATCTA              830
95
96   (2) INFORMATION FOR SEQ ID NO:2:
97   (i) SEQUENCE CHARACTERISTICS:
98   (A) LENGTH: 257
99   (B) TYPE: Amino Acid
```

```
100   (C) STRANDEDNESS: Unknown
101   (D) TOPOLOGY: Unknown
102   (ii) MOLECULE TYPE: Peptide
103   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
104
105   Met Lys Lys Thr Ala Phe Thr Leu Leu Leu
106   1               5                   10
107
108   Phe Ile Ala Leu Thr Leu Thr Thr Ser Pro
109                   15                  20
110
111   Leu Val Asn Gly Ser Glu Lys Ser Glu Glu
112                   25                  30
113
114   Ile Asn Glu Lys Asp Leu Arg Lys Lys Ser
115                   35                  40
116
117   Glu Lys Gln Gly Thr Ala Leu Gly Asn Leu
118                   45                  50
119
120   Lys Gln Ile Tyr Tyr Tyr Asn Glu Lys Ala
121                   55                  60
122
123   Lys Thr Glu Asn Lys Glu Ser His Asp Gln
124                   65                  70
125
126   Phe Arg Gln His Thr Ile Leu Phe Lys Gly
127                   75                  80
128
129   Phe Phe Thr Asp His Ser Trp Tyr Asn Asp
130                   85                  90
131
132   Leu Leu Val Arg Phe Asp Ser Lys Asp Ile
133                   95                  100
134
135   Val Asp Lys Tyr Lys Gly Lys Lys Val Asp
136                   105                 110
137
138   Leu Tyr Gly Ala Tyr Ala Gly Tyr Gln Cys
139                   115                 120
140
141   Ala Gly Gly Thr Phe Asn Lys Thr Ala Cys
142                   125                 130
143
144   Met Tyr Gly Gly Val Thr Leu His Asp Asn
145                   135                 140
146
147   Asn Arg Leu Thr Glu Glu Lys Lys Val Pro
148                   145                 150
149
150   Ile Asn Leu Trp Leu Asp Gly Lys Gln Asn
151                   155                 160
152
```

```
153   Thr Val Pro Leu Glu Thr Val Lys Thr Asn
154                   165             170
155
156   Lys Lys Asn Val Thr Val Gln Glu Leu Asp
157                   175             180
158
159   Leu Gln Ala Arg Arg Tyr Leu Gln Glu Lys
160                   185             190
161
162   Tyr Asn Leu Tyr Asn Ser Asp Val Phe Asp
163                   195             200
164
165   Gly Lys Val Gln Arg Gly Leu Ile Val Phe
166                   205             210
167
168   His Thr Ser Thr Glu Pro Ser Val Asn Tyr
169                   215             220
170
171   Asp Leu Phe Gly Ala Gln Gly Gln Tyr Ser
172                   225             230
173
174   Asn Thr Leu leu Arg Ile Tyr Arg Asp Asn
175                   235             240
176
177   Lys Thr Ile asn Ser Glu Asn Met His Ile
178                   245             250
179
180   Asp Ile Tyr Leu Tyr Thr Ser
181                   255
182
183   (2) INFORMATION FOR SEQ ID NO:3:
184   (i) SEQUENCE CHARACTERISTICS:
185   (A) LENGTH: 757
186   (B) TYPE: Nucleic Acid
187   (C) STRANDEDNESS: Unknown
188   (D) TOPOLOGY: Unknown
189   (ii) MOLECULE TYPE: DNA
190   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
191
192   atgagaaaag cgaagaaata aatgaaaaag atttgcgaaa     40
193
194   aaagtctgaa ttgcagggaa cagctttagg caatcttaaa     80
195
196   Caaatctatt attacaatga aaaagctaaa actgaaaata    120
197
198   aagagagtca cgatcaattt cgacagcata ctatattgtt    160
199
200   taaaggcttt tttacagatc attcgtggta taacgattta    200
201
202   ttagtacgtt ttgattcaaa ggatattgtt gataaatata    240
203
204   aagggaaaaa agtagacttg tatggtgctt atgctggtta    280
205
```

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION   *US/08/882,431*

DATE: 02/09/98
TIME: 11:30:16

INPUT SET: S23303.raw

```
206     tcaatgtgcg ggtggtacac caaacaaaac agcttgtatg     320
207
208     tatggtggtg taacgttaca tgataataat cgattgaccg     360
209
210     aagagaaaaa agtgccgatc aatttatggc tagacggtaa     400
211
212     acaaaataca gtacctttgg aaacggttaa aacgaataag     440
213
214     aaaaatgtaa ctgttcagga gttggatctt caagcaagac     480
215
216     gttatttaca ggaaaaatat aatttatata actctgatgt     520
217
218     ttttgatggg aaggttcaga ggggattaat cgtgtttcat     560
219
220     acttctacag aaccttcggt taattacgat ttatttggtg     600
221
222     ctcaaggaca gtattcaaat acactattaa gaatatatag     640
223
224     agataataaa acgattaact ctgaaaacat gcatattgat     680
225
226     atatatttat atacaagtta aACATGGTAG TTTTGACCAA     720
227
228     CGTAATGTTC AGATTATTAT GAACCGAGAA TAATCTA       757
229
230     (2) INFORMATION FOR SEQ ID NO:4:
231     (i) SEQUENCE CHARACTERISTICS:
232     (A) LENGTH:233
233     (B) TYPE: Amino Acid
234     (C) STRANDEDNESS: Unknown
235     (D) TOPOLOGY: Unknown
236     (ii) MOLECULE TYPE: Peptide
237     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:
238
239     Met Glu Lys Ser Glu Glu Ile Asn Glu Lys
240                      5                   10
241
242     Asp Leu Arg Lys Lys Ser Glu Lys Gln Gly
243                      15                  20
244
245     Thr Ala Leu Gly Asn Leu Lys Gln Ile Tyr
246                      25                  30
247
248     Tyr Tyr Asn Glu Lys Ala Lys Thr Glu Asn
249                      35                  40
250
251     Lys Glu Ser His Asp Gln Phe Arg Gln His
252                      45                  50
253
254     Thr Ile Leu Phe Lys Gly Phe Phe Thr Asp
255                      55                  60
256
257     His Ser Trp Tyr Asn Asp Leu Leu Val Arg
258                      65                  70
```

SEQUENCE VERIFICATION REPORT
PATENT APPLICATION   *US/08/882,431*

INPUT SET: S23303.raw

Line   Error   Original Text